Title

FARMER'S AID PORTAL

Minor project – Report

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Rubrics -3

i. **Title of the project:**
   FARMER'S AID PORTAL

ii. **Project Introduction:**
   Basically, we have thought of having two modules one for the regional head and one for the admin,
   we will have sign up page for new users and a login page.
   After log in the very first page that opens up is for new farmers, here this page shows farmers based on different regions and since we have taken a problem that we are based in Uttarakhand we have taken some of the villages from here and we have sorted the farmers on basis of that,
   for example, if we will click on all - all the farmers will be shown but if we click on a particular farm then only farmers who are working there will be shown then similarly with other buttons this way it will help to be less cluttered and will help to see the farmers being situated in different areas. Moving ahead we can have farmer activity page here and we can input the details of a particular farmer and then by clicking on the submit button it will get added to the database and can be used for the logistics and other statistics now we have thought of doing KYC for example entering the name of the farmer Aadhar card the crops being produced, their monthly income, the latitude and longitude in order to calculate the area which is being under a particular farmer and while clicking on the submit it will get submitted and will be saved in database.
   Also, there's an issue which was being raised that farmers are required to be educated so the resource field manager can upload resources by simply clicking, they can go to the link provided which would be very

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beneficial for them and also the regional field manager can add new sources here and a part will show the assets which are being requested by a particular farmer, farmers can place a request to the regional manager telling that whether he requires a tractor or fertilizer or etcetera.

Moving ahead with module which is the admin module, after successful log in the admin dashboard the admin will be able to review everything and then summarize, they can see the total crops produced by all the farmers in all the regions, total exported units and the unsold crops left, sum total of all the incomes being generated by the farmer and predict next harvest, technologies to get predicted outcome when the next harvest will be available as it would be very beneficial to calculate ahead and stay ahead in time, admin can also look upon the total revenue the administrator can also see farmers detail for example the farmer name and some other details can be seen, he can also see fully elaborated version of a day by clicking on the provided button and it will take them to a place where all the activities and information from time to time is updated so there he can see all the information and also data analysis which shows different visualizations of income involved, how is the produced and yield of crop, we can predict this by using prediction algorithms like how much healthy crop is there and how much damage crop is there in order to see where we are lacking and then improve, it will also help our business to grow, then also administrator can view all the details here then moving towards the statistics part it is very important to see how the impact is being created amongst everyone so we can see the people employed against activities by using different regions and show how many number of people are involved in particular activities. Thus, our problem statement and solution so formed:

PROBLEM STATEMENT:

- To display the farmer's profile and his crop analysis.

- Provide a portal where field staff can enter data of farmers through form.

- Provide a way to analyze visualize for economic social impact.

- Need to educate farmers about technology and local resources.

SOLUTION:

- Simple and user-friendly portal to gather all the data.

- Admin, Regional Field Managers and Farmers have their own database serve their needs.

- Visualization of data in graphical form.

- Logistics presentation for economic social benefits.

iii.   **Client identification and recognition of need:**

We have three main sections: -

- First of all is the admin, he will be able to access the financial insights, view the farmer's record and add regional managers.

- Second, we have the field staff.
  He will be able to add farmers, view and maintain details and provide training to the farmers as well.

- Third, farmers, who will be able to access his profile, and also check the crops produced as well as the income generated.

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iv.   **Recognition & knowledge of relevant contemporary issues:**

♦ We noticed, that farmers of small villages are not very educated and they don't have knowledge of technology or local resources and the market price for their crop.

♦ In order to solve this problem and help the farmers especially of remote areas, we have thought of designing a portal that will help farmers understand the economic-social benefits and analyze the data so that they can get maximum profit.

v.   **Project Identification:**

▪ While going through different project ideas, we came across this problem statement and realized that we can do so much for farmers with our innovative ideas and tech knowledge.

▪ So, we thought of making a place for farmers which would help them get maximum benefits.

▪ We researched on this topic and realized that there is no proper AID/HELP for the farmers, so we took it upon ourselves to introduce something useful and new that will not only help with the farmers growth but also our country's economic development because farmers are our country's backbone.

vi. **Task identification:**

- Researched on the topics: -

  Farmers need

  Financial insights

  Revenue management

  Farmers records

  Farmers basic details

  Crop production and income

  Need for regional managers

  Analysis of data and verification

  Admin and field staff roles

  Asset management

  KYC and farmers bank account

  Need for basic education

- Thoroughly went through problems of farmers and thought about the possible solutions that can be provided by our team and our project's future scope.

- For starters we picked a remote area with many underdeveloped villages from Uttarakhand.

- Our project is divided into three main sections namely:
  - Admin

- Field staff
- Farmers

vii. Project Timeline:

- Researched on the topic- how we get the topic, planning etc.

    (1st -2nd week)

- Define problem statements- found numerous problems to work on

    (2nd -4th week)

- Solution identification- created modern solutions for different problems

    (3rd - 4nd week)

- Client identification- divided our project into main members

    (3rd – 4th week)

- Rough prototype- every team member provided his/her work

    (3rd – 6th week)

- Other issues identification and solutions- considered and corrected new problems faced

    (5th – 6th week)

- Finalizing prototype- finalize the whole prototype with new updates and features

    (7th -8th week)

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viii. <u>**Gant chart:**</u>

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Research	██							
Defined problem statements		██	██	██				
solution identification			██					
client idenification				██	██			
Rough Prototype			██	██	██	██		
Other issues					██	██		
Final Prototype							██	██

ix. <u>**Relevant topics identified for Literature review:**</u>

- Exploitation of farmers due to lack of knowledge and education.

- Lack of economic growth

- No awareness about market prices amongst farmers in remote areas.

- Replacement of old farming methods with new technology.

- Introduction of KYC and bank services in farmer's day to day life.

- Surplus production of seasonal crops

- Introduction to organic farming

- Increase in efficiency with minimum labor.

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x. **Review of previous solutions or related materials, extent and relevance of the materials and reviewed to the project:**

In all honesty, previously not much help was provided to the farmers in this regard.

So, we came up with our ideas/ solutions to solve the problem.

In our previous solution towards this problem statement, we came up with simple and user-friendly portal which was easily understandable and gathered all the data in one place.

We created a separate database for Admin and Farmers in the portal for easy handling of their needs.

We presented a logical solution for economic and social benefits.

These were our previous ready solutions to deal with our problem statements,

Now the changes we have added after reconsidering all the materials available are:

Addition of regional Field manager- who will make our website more convenient for the farmer's use by providing helpful information according to the area assigned to them.

Secondly, we made changes by adding visualization of data in graphical form which can make data entry easy to visualize and more effective.

It will be helpful for users to understand the data in graphical form, we can use different types of graphs to mainly visualize the monthly or

yearly statics.

Lack of funds also decreased the expected overall growth and development of farmers, so in our portal farmer's need has also been taken into consideration.

Lastly, many farmers are not able to adapt with the new technology and incorporate it in their daily life, so in order to help the farmers educational videos will be added and farmers will also be able to contact the field managers for help.

xi. **Summary of how reviewed literature helped in defining problem statement:**

In a country like India where there is more weightage to labor and manual work. The country which is known by the farmers, are being exploited due to their lack of knowledge and subpar technological skills. Farmers were also left behind by the urban society because of the ever-increasing economic gap and non-profitable margin. Farmers were also the victim of lack of awareness as they were deprived of the news of market prices in remote areas. Due to the lack of knowledge, Farmer were left behind in economic gap but they were also deprived of the new methods in farming because of lack of awareness.
However, with the help of these modern-day services, the farmers are able to hold grasp of the new farming methods like Aeroponics, Hydroponics, Monoculture etc. With the introduction of KYC (Know Your Customer) which helped in preventing fraudulent scams and with the help of KYC, they got a proper identity and there are people like us are always ready to aid, their lives are finally getting easier day-by-day. Nowadays, because of these advance methods we are recording surplus production of seasonal crops which in turn keeps the quality up

and keeps the price down which is beneficial for everyone. Today, the farmers are being introduced to organic farming which aims for sustainability, the enhancement of soil fertility and biological diversity which is beneficial for us and our mother earth. Lastly, the services by which we are trying to help the farmers and bringing them together increases the efficiency and minimizes the need of labor.

xii.   **Problem Definition:**

- Farmers will have Broadcasting support if they need any assistance from other farmers or the Regional Field Managers.

- There is a feature in in which the Regional Field Managers or Admins can get reports on farms according to the regions they are situated in.

- We can get a detailed report of every farmer who is authorized to the portal i.e., Assets used, Materials consumed etc.

- There is a strict feature of KYC for farmers for validation to avoid potential frauds and scams to the service.

- If a farmer is lagging behind or wants to learn something, the Regional Field Managers can send them resources (e.g. Educational videos, Articles).

- Farmers can request directly to the Regional Field Managers via the mobile application or website for the need of assets or raw materials.

- The portal will come with a Multi-lingual support which will further enhance the experience for the farmers.

- Other than the website, the portal will also have a web application which will further increase the reliability and versatility for the farmers.

xiii. **Goals and Objectives:**

- There is a weekly farmers report for the better understanding of everything which are logistics, need of the assets etc.

- Analyzing of data for the better understanding for social and economical impact.

- Bringing technological awareness to the farmers to help them better socialize to the present urban society.

- Providing farmers, a simple and easy-to-use interface for their assistance and services.

- The data which is collected from the weekly farmers report will be converted into a graphical format for the better understand for the farmers, field managers and the admins.

- The main goal of the portal is to work in harmony and the upliftment of working class because they are the ones who will keep our future safe and bright.

xiv. **Features/Characteristic selection:**

Important features of our project is:

- Simple and User-friendly portal

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- Different database for different sections for easy handling of their needs

- Graphical form of data for better understanding

- Increase in efficiency

- Basic education for farmers for mutual growth

xv. **Constraint Identification:**

a) Regulations & Design constraints considered in design:

Design constraints can have a significant impact on the design and should be validated prior to imposing them on the solution. That is why we have gone through procedural steps of critical thinking.

- Catching up with the deadlines

- Easy handling and working on time

- Great visibility of data

- Identifying the specific constraints for each category, and capture them as system requirements

b) Economic, environmental, health, manufacturability & safety constraints considered in design:

Design constraints are those constraints that are imposed on the design solution, which in this example refers to the ESS design. These constraints are typically imposed by the customer, by the development organization, or by external regulations.

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The constraints may be imposed on the hardware, software, data, operational procedures, interfaces, or any other part of the system. Examples may include a constraint that the system must use predefined COTS hardware or software, use of a particular algorithm, or implement a specific interface protocol.

c) **Professional and ethical issues considered in design**:

Dark patterns (a.k.a. unethical design) are tricks on a website or application that mislead users into doing something that they have no intention of doing. These patterns gained attention during the 2012 election year with the rise of fake news creeping its way into social media and our inboxes.

Today even the most informed web user can be tricked without realizing it. One example of this is using auto-filled checkboxes to trick the user into poorly disclosed actions. Sometimes apps have options pre-selected that will dig into your photos, contacts, or personal information. It's only after you lazily click "yes" that you realize you just mass-invited your contact list.

One of the best places to highlight your brand's mission, as well as its ethical values, is in your marketing and designs.

After all, these are the areas of your company that prospects and customers might see most.

While ethics, inclusivity, and accessibility are not necessarily always top of mind for some busy marketers or designers,,
it's incredibly important to review any public-facing projects from an ethical perspective.

xvi. Analysis and feature finalization subject to constraint:

In the problem statement as we discussed, there were many improvements that came to life. In the end, the main motive was to bring a sense of ease to the farmers and end-users and ample of convenience. Earlier, there was only a unified page for everyone whether they are famers and admin but as of now there are different portal for everyone according to their use and conveniences. This idea was user-friendly and easy-to-understand at the same time. Earlier, they was only raw data which was supplied to the portal but now there are defined statistics, both economical and social which benefits both admin and the farmers. There were improvements to the portal some of them are :

Additional of Regional Field Manager- will help make our more convenient and super user-friendly for the farmers by providing many helpful solutions to the portal.

Visualization of Statistics – At first, we were provided with only the raw data but later we enhanced the portal and turned the data into graphical format and improved statistics.

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xvii. **Generate multiple design alternates:**

These were the previous ideas that were used but were not implemented and in place of these the final build was implemented. These were the ideas that were supposed to be implemented but were later dashed off. Some of our ideas that were planned but were not used are below the following:

xviii. **Selection of best design and implementation plan:**

The final build of the portal was selected because it contains a more

user-friendly option. Now, it contains separate portal for admin and farmers which will give an ease of access to both of them. There was a major change in the representation of data. Earlier, it was raw data that was displayed on the portal but now the data is represented graphically and the statistics have more depth to them. In the earlier build, there was no education material for the farmers to make them self-taught but now there is a separate Self-Learning section for the farmers where they can get hold of the knowledge which is the arrival of new technology and techniques which are getting introduced to the farming world everyday.

xix. **References:**

- Anon, Agriculture & Horticulture Corner. Farmer Portal: Home Page. Available at: https://farmer.gov.in/ [Accessed September 11, 2022].

- Anon, Home: Department of agriculture & farmers welfare: Mo A&FW: Goi. Home | Department of Agriculture & Farmers Welfare | Mo A&FW | GoI. Available at: https://agricoop.nic.in/en [Accessed September 8, 2022].

- Anon, National Portal of India. Available at: https://www.india.gov.in/farmers-portal [Accessed September 23, 2022].